

wherein the circuit further includes an integration capacitor having a first electrode for coupling to the first input and a second electrode for coupling to the output of the amplifier.

- 5 15. The sequential readout circuit of claim 10 further comprising:
a level-shifting mechanism coupled to the amplifier for performing level
shifting of the output of the amplifier.
- 10 16. The sequential readout circuit of claim 10 further comprising:
a gain mechanism coupled to the amplifier for performing gain
manipulation of the amplifier.
- 15 17. The sequential readout circuit of claim 10 wherein each photocell includes
a photodiode for detecting light and responsive thereto for generating a
voltage representation thereof; wherein the photodiode includes an
integration node;
a first transistor coupled to the photodiode for resetting the integration node
in response to a reset signal;
a second transistor coupled to the integration node for shifting the level of
20 the voltage at the integration node; and
a third transistor coupled to the second transistor for reading out the level-
shifted voltage in response to a read signal.
- 25 18. The sequential readout circuit of claim 10 wherein the sequential readout
circuit is implemented in one of a scanner application, an optical mouse
application, a video game controller application, a movement encoder application, a
near field application, and a far field application.

19. A method for sequentially reading out an array of photocells that includes at least one row and at least two columns by employing a sequential read-out circuit that includes a sample and hold circuit for each column, the method comprising:

- a) sampling the photocells of a current row;
- b) holding the sampled values by a respective sample and hold circuit;
- c) resetting the current row of photocells; and
- d) processing each photocell in the current row one photocell at a time.

20. The method of claim 19 wherein the step of sampling the photocells of a current row includes

sampling a first voltage level for each photocell in the current row;
wherein the step of processing each photocell in the current row one photocell at a time includes

sampling each photocell for a second voltage level;
determining the difference between the first voltage level and the second voltage level of each photocell in the current row in a time sequential manner; and
reading-out the difference of each photocell one photocell at a time.